The **Greenstar** gas-fired condensing wall mounted regular boiler series

Technical and specification information

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Worcester and you. Making a difference.

Working together for many years, heating professionals and Worcester have been making a real difference in hundreds of thousands of homes across the UK. We are recognised as a market leader in high efficiency, condensing boiler technology and are also committed to providing renewable energy solutions.

As part of the Bosch Group, our products are designed and manufactured to provide the high levels of quality and reliability which are synonymous with the Bosch name throughout the world.

We're a leading British company, employing more than 1,800 people at our headquarters and manufacturing plants in Worcester and at Clay Cross in Derbyshire, including a nationwide network of over 300 Service Engineers and over 80 technically-trained Field Sales Managers.

As part of Europe's largest supplier of heating products, Worcester, Bosch Group has the UK-based resources and support capability to offer you the value-added solutions we feel you deserve.

"At Worcester we recognise the vital role you, our customer, has in the specification and installation of 'A' rated, energy efficient appliances in homes across the UK. We will continue to invest in our products, people, facilities and added value services such as training, to give you the support you require in providing a total solution for your customers' comfort."

Richard Soper,
Managing Director, Worcester, Bosch Group

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The Greenstar condensing regular boiler range

The Greenstar regular range is part of a market leading range of energy-saving condensing wall mounted gas-fired boilers.

Floor standing regular boilers are also available from Worcester in 30kW and 40kW outputs. For further information see the FS CDi Regular Tech & Spec, part no. 8 716 115 422.

Higher efficiency therefore highly cost effective

The Greenstar condensing regular boilers have an annual efficiency (SEDBUK value) of over 90%, efficiently producing heat for your heating and/or hot water system. Non-condensing boilers achieve around 78% efficiency. Therefore, compared with a non-condensing boiler, Greenstar condensing regular boilers can cut heating and hot water bills and are cheaper to run than an older boiler.

Hence, SEDBUK Band A ratings for all models in the Greenstar condensing range.

Greenstar condensing regular boilers deliver this energy-saving performance by recycling exhaust gases to extract and re-use the latent heat – a highly efficient use of energy which also significantly reduces carbon dioxide emissions into the atmosphere.

To all these major benefits you can add yet more: renowned Worcester quality and reliability; a range of outputs to satisfy the heating demands of a range of households and truly all-round value for money.

Greenstar 12Ri low NOx model

Worcester's commitment to reduce emissions from gas-fired condensing boilers now sees the 12Ri model achieve NOx values <40mg/kWh. This enables the appliance to achieve 3 credits under The Code for Sustainable Homes whilst still achieving a SEDBUK A rating.

The Greenstar regular range at a glance

		12Ri	15Ri	18Ri	24Ri	30CDi Regular	40CDi Regular
Output kW to central heating (CH)	Min	4kW	5kW	6kW	8kW	7.7kW	9.4kW
	Max	12kW	15kW	18kW	24kW	30kW	40.8kW
Primary temperature control		•	•	•	•	•	•
Modulating control		•	•	•	•	•	•
Natural gas		•	•	•	•	•	•
LPG boiler		•	•	•	•	•	•
Electronic ignition		•	•	•	•	•	•

The features of the Greenstar condensing regular boiler range

A condensing boiler is more efficient due to its ability to extract more heat from the flue gases normally lost to the environment through the flue system.

As the flue gases pass through the heat exchanger this extra surface area can cool the flue gases to around 55°C whereupon the latent heat within, which would normally be lost to the atmosphere, is instead released and applied to the system.

It is this ability to extract as much heat as possible from the gas it burns that gives the Greenstar condensing regular range an exceptionally high level of operating efficiency.

This higher efficiency is recognised within Section L of the Building Regulations, subsequently achieving a higher SAP or NHER rating.

Whenever a demand for DHW or CH is made, the boiler's electronic control system is energised and the burner electronically ignites via a flame ionisation system.

The pre-mix burner automatically adjusts to the set level. The flow temperature of the boiler is then maintained at the customer setting by the fascia mounted variable control. Should the system requirements reduce during operation (TRVs closing down, etc.) and the flow temperature exceed the customer setting then the burner will modulate downwards to match the system demand level. Should the flow temperature continue to rise then the burner will be de-energised and the control system will go into an anti-cycle mode and not allow the appliance to re-fire for a set period.

Fluing options

The Greenstar regular range features 2 different sizes of multi-directional RSF flue systems, 100mm or 125mm. The flue can be run horizontally or vertically with additional 90º or 45º in-line bends allowing changes of route or direction, providing an extremely flexible and versatile fluing system enabling the appliance to be sited virtually anywhere. More details are shown on page 22.

Greenstar Ri security features

- Security coding
- Non-removable wall screws.

Gas options

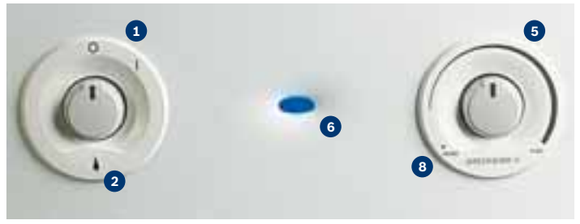
Greenstar regular boilers are manufactured in both natural gas and Liquid Petroleum Gas (LPG) variants.

Greenstar CDi Regular and Ri boilers

The Greenstar regular boilers are designed for connection to a fully pumped heating and hot water system e.g. Y or S plan. For this reason no plug-in controls are available on Greenstar regular models. The advice of a controls manufacturer should be sought.

- The Greenstar regular boilers are suitable for a wide range of heating loads allowing extension to the heating system without upgrading the boiler
- The Greenstar regular boilers are capable of operating on both open vent and sealed primary water systems*
- Two or more Greenstar regular boilers can be linked together to cater for commercial or industrial applications.

Fascia features and control options



Greenstar Ri regular fascia

Greenstar CDi Regular fascia

1. Power ON/OFF switch
2. Burner 'ON' indicator LED
3. Service mode button (Greenstar CDi Regular only)
4. Inspection and advanced service mode button (Greenstar CDi Regular only)
5. Central heating temperature control selector
6. Mains 'ON/OFF' indicator with diagnostic sequence
7. Digital display (Greenstar CDi Regular only)
8. Boiler reset button
9. 'Eco' mode (not operational on these boilers)
10. Holiday mode button (Greenstar CDi Regular only)

System controls

The Building Regulations Section L 2006 require a minimum level of controls to be installed on all heating systems, both on new build and refurbishment.

Generally, this would require:

- Room thermostat
- TRVs on all radiators, or at least those radiators in sleeping areas if not already fitted. Do not fit TRVs in the room in which the room thermostat is installed
- Time and temperature control for central heating and domestic hot water
- Automatic by-pass.*

Further information is available in the Domestic Heating Compliance Code.

Energy-saving & environmental features

- SEDBUK A Rated
- Low electrical consumption when the boiler is in standby mode
- Aluminium-silicon heat exchanger delivers high efficiency and reliability
- Electronic ignition
- Anti-cycle control
- Modulation control gives efficient use of energy

Time & labour-saving installation features

- All models available as natural gas and LPG
- Full range of Condensfit II flue options in both 60/100mm and 80/125mm diameters. 60/100mm includes plume deflector as standard and plume management kit available as an option
- Flow and return pipes supplied to allow pipes behind installation
- Greenstar Ri weighs just 22.6kg making it the lightest boiler in its class

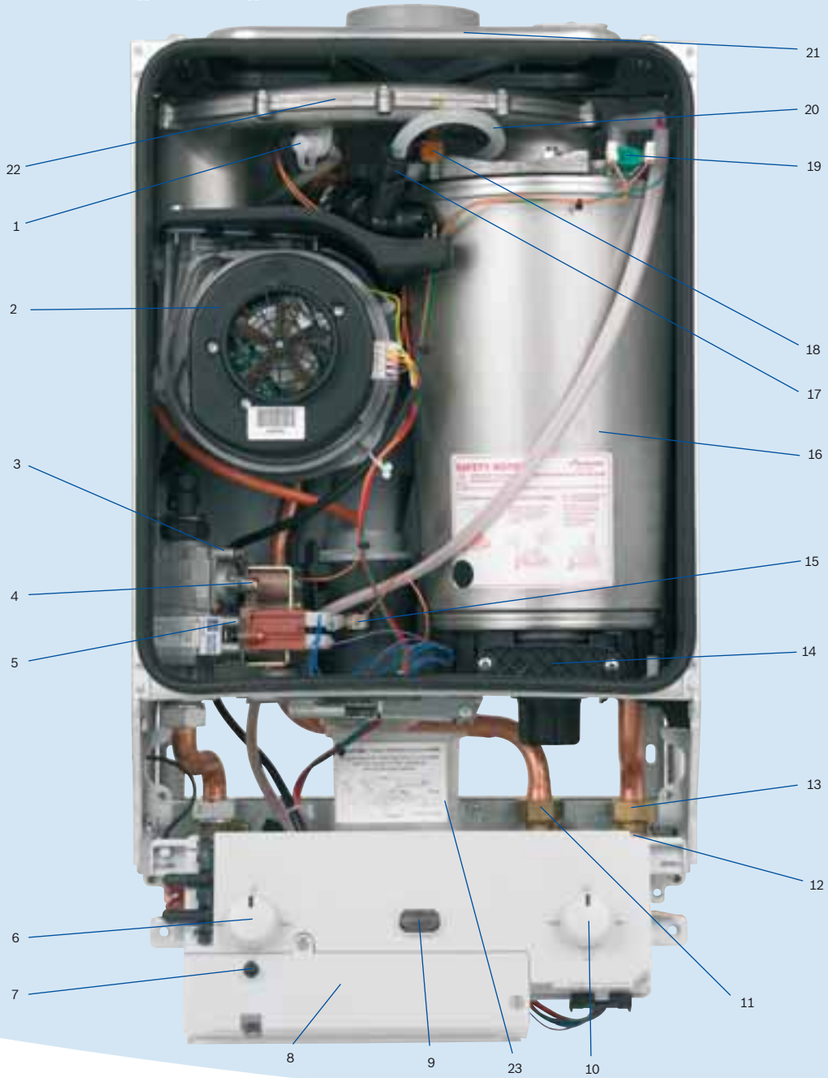
End user comfort and convenience features

- 10 year guarantee on Worcester primary heat exchanger**
- Boiler protection plans available for both new and out of warranty Worcester boilers
- Bosch renowned quality and reliability
- Built-in frost protection
- Optional anti-theft security fittings (Greenstar Ri only)
- Controls behind flap – aesthetically pleasing and discourages children altering controls (Greenstar CDi Regular only)
- Compact dimensions of Greenstar Ri range make it ideal for kitchen cabinet installation

*Sealed systems require additional external components: expansion vessel and PRV (not supplied by Worcester)

*Where required – see installation booklet for further details. **Subject to terms and conditions.

Inside story – Greenstar Ri condensing regular boiler series



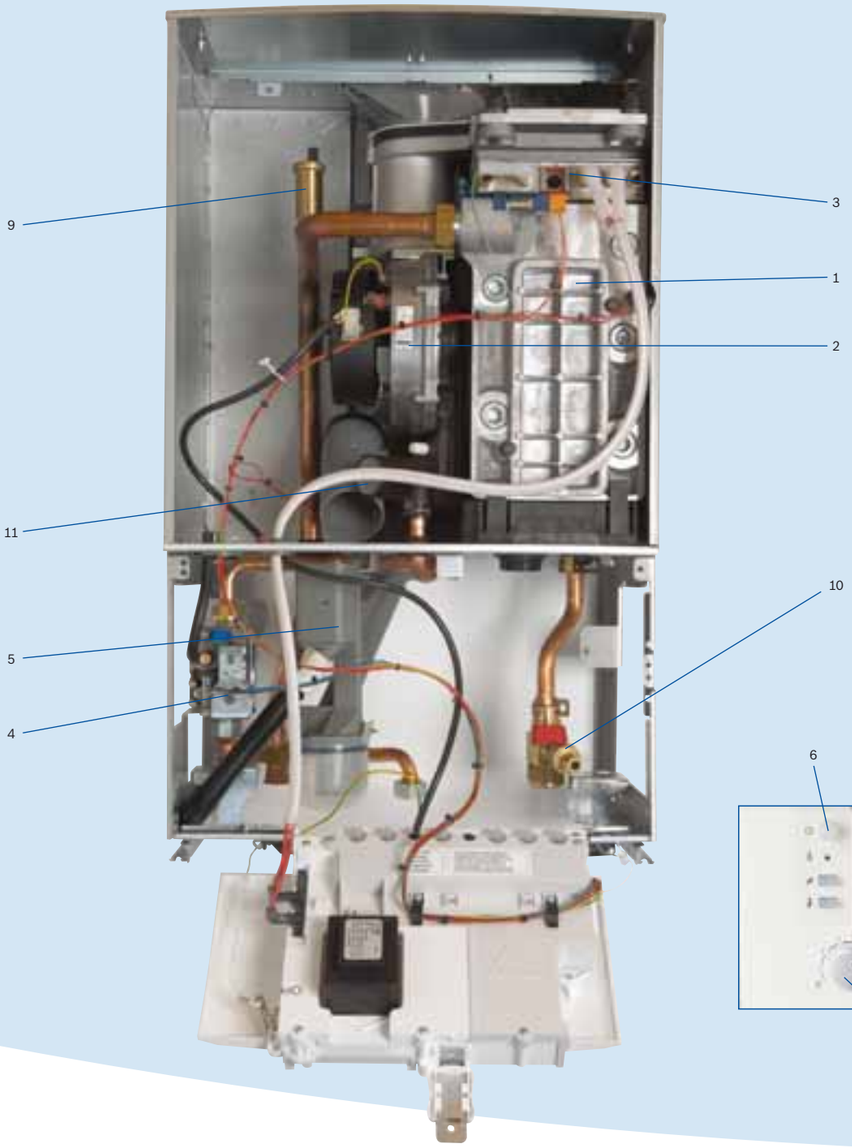
Key to components

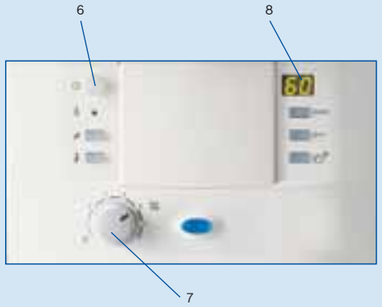
1. Fan Pressure Test Point
2. Fan
3. Air/Gas Adjustment Screw
4. Gas Valve
5. Inlet Pressure Test Point
6. Boiler Power Switch
7. Flame Indicator (green)
8. Cover for External Wiring Connections
9. Power and Fault Indicator (blue)
10. Boiler Thermostat and Reset Knob
11. Flow Connection 22mm Compression
12. Drain Point
13. Return Connection 22mm Compression
14. Service Access Point
15. Flue Overheat Thermostat
16. WB3 Heat Exchanger
17. Manual Vent Point
18. Sensor Boiler Flow
19. Over-heat Thermostat
20. Silicon Tube (use to vent air from Heat Exchanger)
21. Removable Top Case for cleaning Heat Exchanger
22. Air/Gas Manifold
23. Syphonic Trap

Greenstar Ri regular technical data

Model	Greenstar 12Ri	Greenstar 15Ri	Greenstar 18Ri	Greenstar 24Ri
Height (mm)	600	600	600	600
Width (mm)	390	390	390	390
Depth (mm)	270	270	270	270
Weight – dry (kg)	22.6	22.6	22.6	22.6
SEDBUK value % / band – natural gas	90.1% / Band A	90.1% / Band A	90.1% / Band A	90.2% / Band A
SEDBUK value % / band – LPG	91.4% / Band A	91.4% / Band A	91.4% / Band A	92.0% / Band A
Heating flow / return connections	22mm compression	22mm compression	22mm compression	22mm compression
Gas connection	22mm compression	22mm compression	22mm compression	22mm compression
Primary water content (litres)	1.1	1.1	1.1	1.1
Max. flow temperature (ºC)	82	82	82	82
Output to central heating kW (Btu/h)	4 - 12 (13,648 - 40,944)	5 - 15 (17,060 - 51,180)	6 - 18 (20,472 - 61,416)	8 - 24 (27,296 - 82,000)
Max. vertical flue (mm) (100mm dia.) inc. terminal	6,400	6,400	6,400	6,400
Max. vertical flue (mm) (125mm dia.) inc. terminal	15,000	15,000	15,000	15,000
Max. horizontal flue (mm) (100mm dia.)	4,600	4,600	4,600	4,600
Max. horizontal flue (mm) (125mm dia.)	13,000	13,000	13,000	13,000
NOx classification (mg/kWh)	39	60	84	66
NOx class	5	5	4	5
Noise output level (dB(A))	39	42.7	43.7	41

Inside story – Greenstar CDi Regular condensing boiler series





Key to components

1. Aluminium/Silicon WB5 Heat Exchanger
2. Pre-mix Fan
3. Down Firing Low NOx Burner
4. Gas Valve
5. Condensate Syphon
6. On/Off Button
7. Central Heating Temperature Control
8. Digital Display
9. Auto Air Vent
10. Drain Point
11. Air/Gas Adjustment Screw

Greenstar CDi Regular technical data

Model	Greenstar 30CDi Regular	Greenstar 40CDi Regular
Height (mm)	760 (max)	760 (max)
Width (mm)	440	440
Depth (mm)	360 (max)	360 (max)
Weight – dry (kg)	39.5	39.5
SEDBUK value % / band – natural gas	90.3% / Band A	90.2% / Band A
SEDBUK value % / band – LPG	92.3% / Band A	92.0% / Band A
Heating flow / return connections	22mm compression	22mm compression
Condensate connection	22mm plastic pipe	22mm plastic pipe
Gas connection	22mm compression	22mm compression
Output to central heating kW (Btu/h)	7.7 - 30 (26,272 - 102,360)	9.4 - 40.8 (32,073 - 139,210)
Wall mounting jig	•	•
Fault diagnostic display	•	•
Flow and return pipes supplied to allow pipes behind installation	•	•
Max. vertical flue (mm) (100mm dia.) inc. terminal	9,400	4,900
Max. vertical flue (mm) (125mm dia.) inc. terminal	18,500	16,000
Max. horizontal flue (mm) (100mm dia.)	7,900	6,000
Max. horizontal flue (mm) (125mm dia.)	18,500	12,500
NOx classification (mg/kWh)	33.3	32.2
NOx class	5	5

Installing the Greenstar regular range

The Greenstar regular boilers are designed for connection to a traditional heating and hot water system. The major benefits are:

- The boiler is compatible with S and Y plan systems
- The boiler comes supplied with a wall mounting bracket and a plastic bottom panel.

Greenstar regular boilers are exceptional for their number of additional time saving installation features:

- Built-in frost sensor for boiler protection
- Built-in fault finding diagnostics
- Automatic gas pressure adjustment
- Highly versatile multi-directional fluing system
- Combined ignition and control board means fewer connections
- A rigid 22mm compression gas connection eliminating the need for pre-fabricating the gas pipe onto the isolating valve
- The large output range capability of the appliances
- A syphonic condensate trap is pre-plumbed within the boiler
- Pre-fabricated pipes allowing top exit from the boiler

Siting of appliance

General

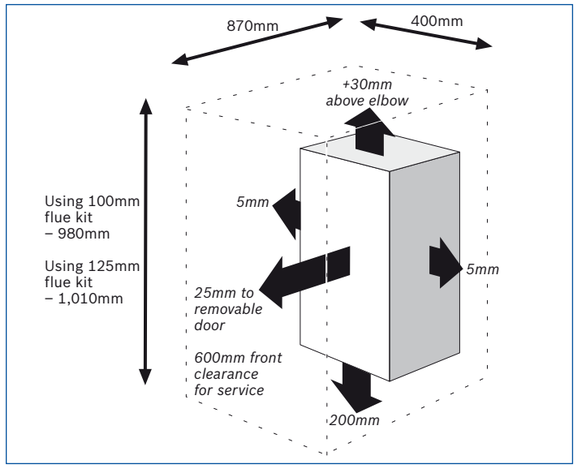
The appliances are only suitable for installing internally within a property at a suitable location onto a fixed, rigid surface at least the same size as the appliance and capable of supporting its weight.

No surface protection is required against heat transfer from the boiler. However, if the appliance is to be fitted in a timber frame building the guidelines laid down in BS 5440:Part 1 and the CORGI publication “Gas Installations in Timber Frame Buildings” should be adhered to.

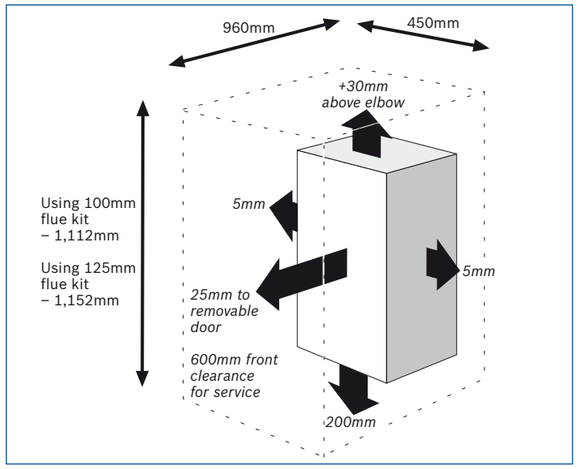
The appliances may be installed into an airing cupboard if required. Use a non-combustible perforated material (max. hole sizes of 13mm) to separate the boiler from the airing space. See section “Compartment Installation” on page 13.

Clearances

The minimum clearances shown below should be allowed for installation and servicing. Compartment ventilation would be required at these clearances.



Clearances for Greenstar Ri



Clearances for Greenstar CDi Regular

Compartment installation

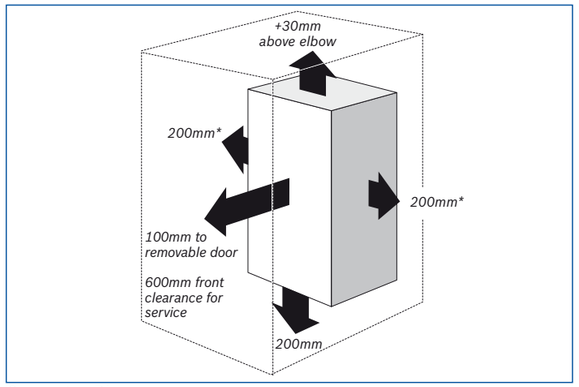
The appliance may be installed in any room, although particular attention is drawn to the requirements of the IEE regulations applicable and in Scotland the electrical provisions with respect to installation in a room containing a bath or shower.

1. The room in which the appliance is installed does not require a purpose provided air vent.

2. If the appliance is installed in a cupboard or compartment with dimensions that allow the following minimum clearances, then no ventilation is required:

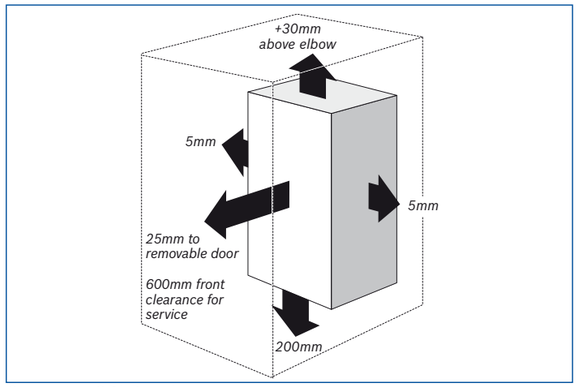
Compartment installation		
Position of appliance	Min. unventilated clearance (to removable door)	
	Greenstar Ri	Greenstar CDi Regular
In front	100mm	20mm
Below	200mm	200mm
Right side	200mm*	5mm
Left side	200mm*	5mm
Above flue elbow	30mm	30mm

Ventilation free compartment installation – minimum clearances



Greenstar Ri

**This can be reduced to 50mm for one side, provided that the total side clearances add up to 400mm or more.*

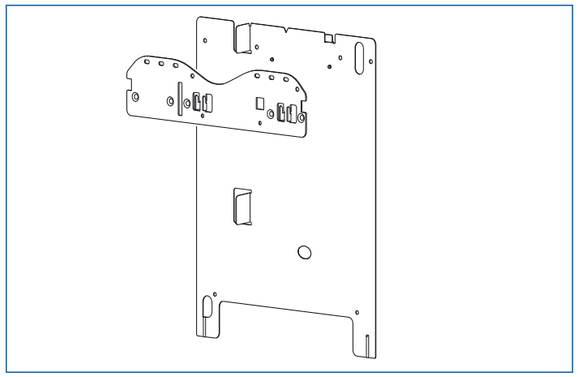


Greenstar CDi Regular

Wall preparation

The following diagrams show the wall mounting jigs which enable a simple and straightforward method of attaching the boiler to the wall surface.

The wall mounting jig for the Greenstar CDi Regular has additional optional fixing points and provides improved engagement. After fixing the jig to the wall, the appliance can be lifted onto the jig and the union connections tightened. The pipework can be routed behind the boiler without the need for an additional wall spacing frame.



Greenstar CDi Regular wall mounting jig

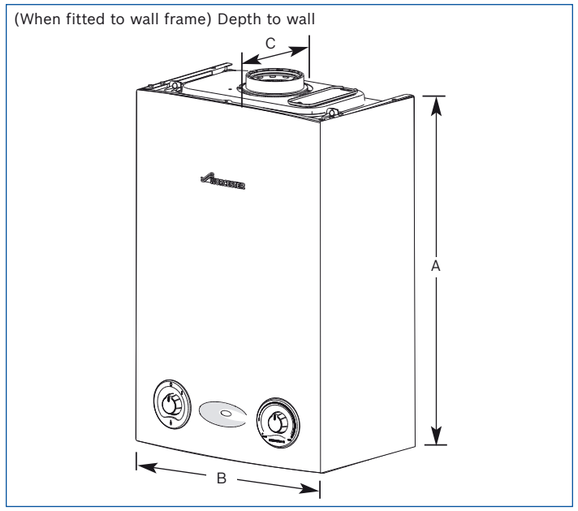
Greenstar Ri wall mounting bracket

Greenstar Ri boilers come complete with a wall mounting bracket which enables a simple and straightforward method of attaching the boiler to the wall surface. After fixing to the wall, the flow, return and gas supply can be connected. The boiler also features levelling screws which allow the alignment to the wall to be adjusted in line with the wall finish. This is particularly useful on uneven walls and tiled surfaces.

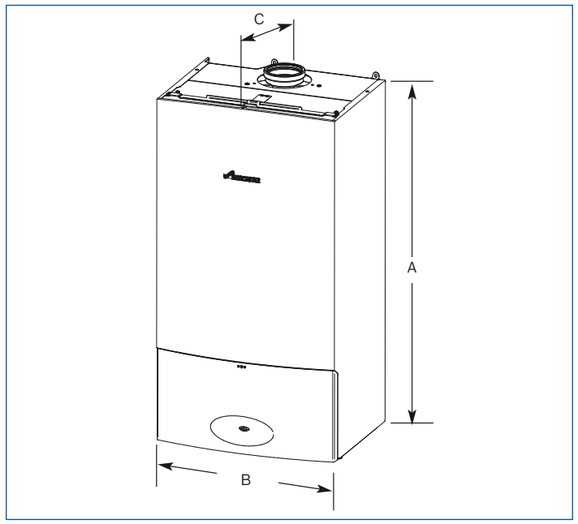
Greenstar Ri pipe re-orientation

The flow and return pipework can be orientated to exit out of the bottom of the appliance if desired. The pipework tails are simply removed from the compression fittings and are directed downwards behind the chassis.

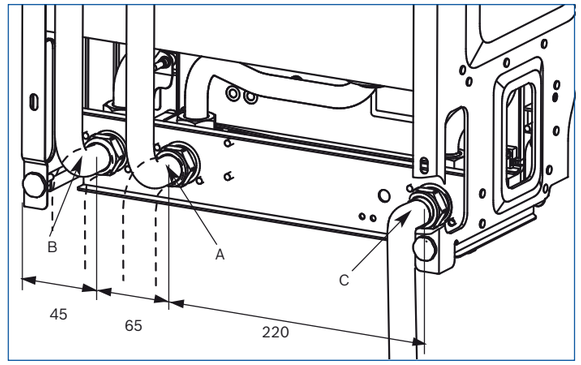
Pipework connections and casing dimensions



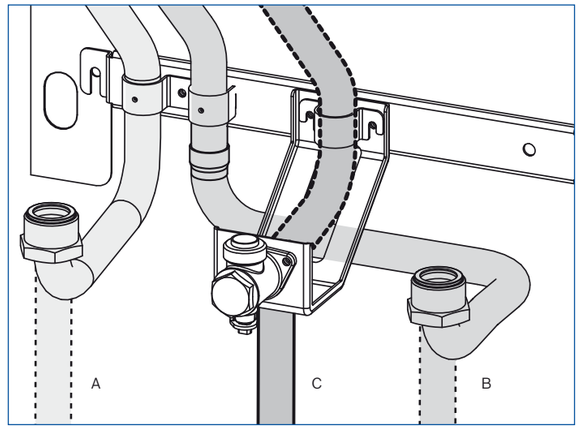
Greenstar Ri



Greenstar CDi Regular



Greenstar Ri



Greenstar CDi Regular

Cabinet dimensions (mm)	
Greenstar Ri	
A	600
B	390
C	270
Greenstar CDi Regular	
A	750*
B	440
C	360

**760mm to top of casing front.*

Pipework connections		
A	CH flow	22mm
B	CH return	22mm
C	Gas inlet	22mm

Boiler location & clearances

Bathrooms

IMPORTANT:

Any switch or appliance control using mains electricity must not be within reach of a person using the bath or shower.

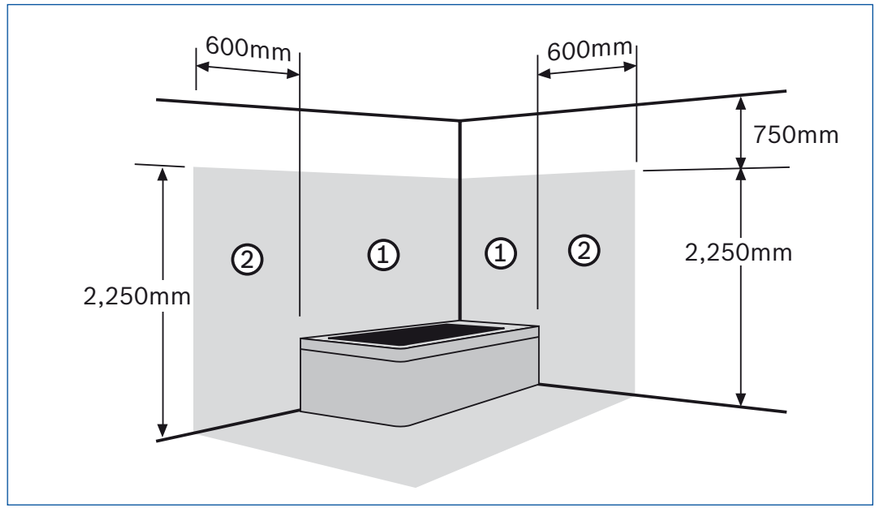
Electrical switches, fused spurs and socket outlets must not be situated in the bathroom.

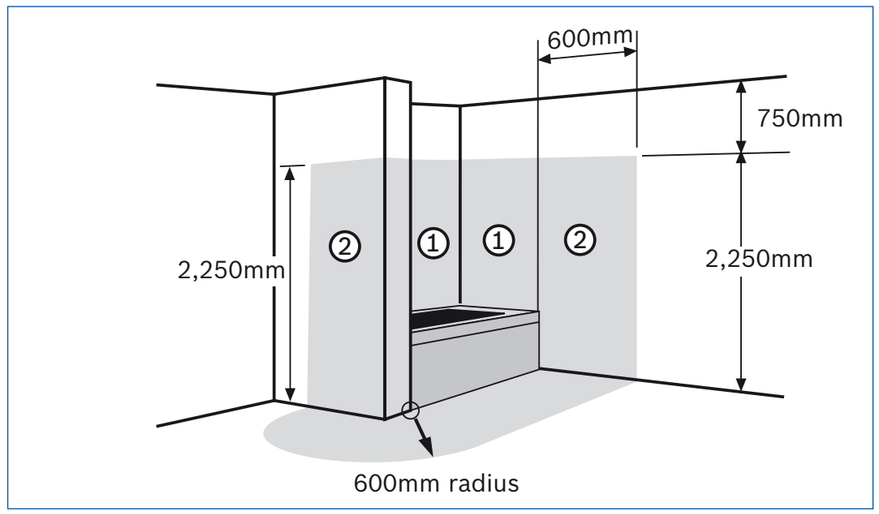
A boiler fitted with a non-mechanical timer or with no timer can be installed in zone 2 or outside the shaded area.

A boiler with a mechanical timer or RF mechanical timer with a room thermostat must only installed outside the shaded area.

Additional Residual Current Device (RCD) protection may be required.

Refer to the latest IEE wiring regulations.





Condensate pipe work

- **Where a new or replacement boiler is being installed, access to an internal “gravity discharge” point should be one of the factors considered in determining boiler location**
- **The condensate pipe must be a minimum of 22mm dia. plastic pipe**
- **The condensate pipe work must fall at least 50mm per metre towards the outlet and should take the shortest practicable route**
- **Ensure there are no blockages in the pipe run.**

Internal connections

In order to minimise risk of freezing during prolonged cold spells, the following methods of installing condensate drainage pipe should be adopted, in order of priority.

Wherever possible, the condensate drainage pipe should be routed and terminated so that the condensate drains away from the boiler under gravity to a suitable internal foul water discharge point such as an internal soil and vent stack. A suitable permanent connection to the foul waste pipe should be used (see fig. 1).

Alternatively if the first option is not possible an internal kitchen or bathroom waste pipe, washing machine waste pipe etc. can be used (see fig. 2).

Condensate pump

Where “gravity discharge” to an internal termination is not physically possible, or where very long internal runs would be required to reach a suitable discharge point, condensate should be removed using a proprietary condensate pump, of a specification recommended by the boiler or condensate pump manufacturer.

The pump outlet pipe should discharge to a suitable internal foul water discharge point such as an internal soil and vent stack, internal kitchen or bathroom waste pipe, washing machine waste pipe etc. A suitable permanent connection to the foul waste pipe should be used (see fig. 3).

Internal condensate pipe work

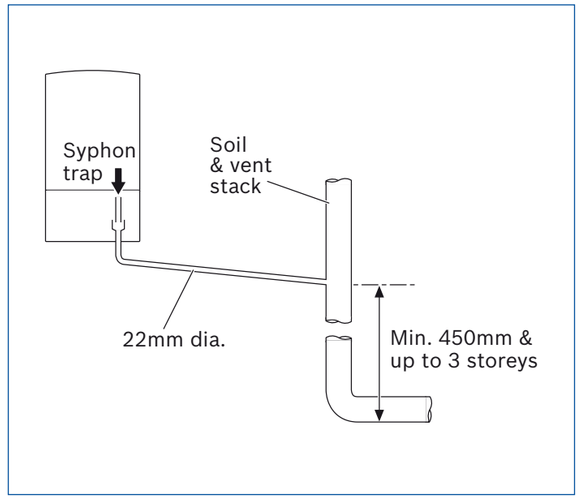


Fig. 1 Disposal to soil vent stack

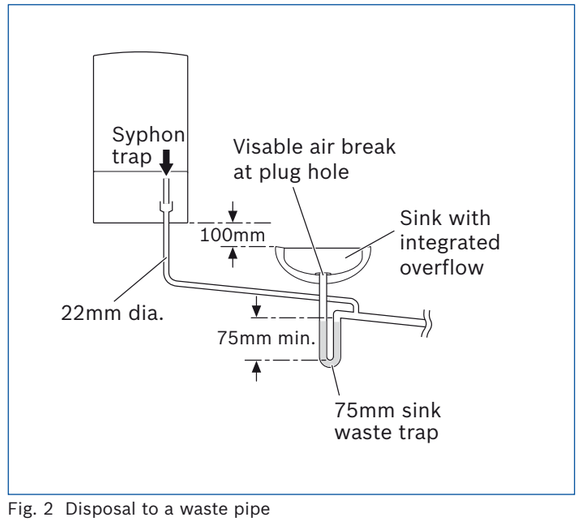


Fig. 2 Disposal to a waste pipe

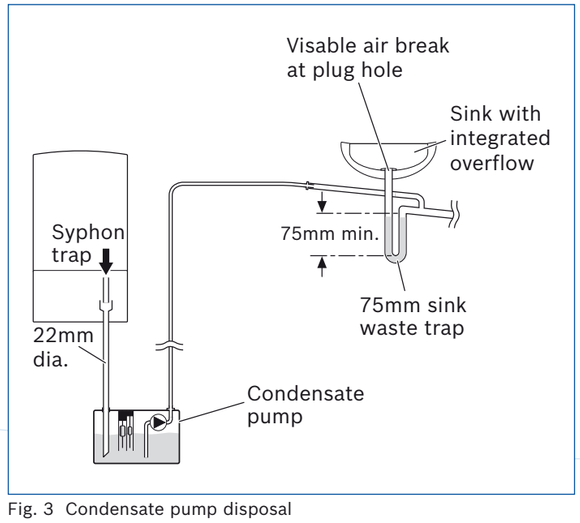


Fig. 3 Condensate pump disposal

External connections

Freezing conditions

- **Pipe work length should be kept to a minimum and the route as vertical as possible**
- **Where pipe work is subjected to extreme cold or wind chill, a weather proof insulation should be used.**

Condensate waste

- ***Care should be taken when siting a soak away to avoid obstructing existing services.***

If no other discharge method is possible then the use of an externally run condensate drainage pipe terminating at a suitable foul water discharge point, or purpose-designed soak away, may be considered.

If this method is chosen then the following measures should be adopted:

- The external run be kept as short as possible and not exceed three metres.
- The pipe should be run internally as far as possible before going externally and the pipe diameter should be increased to 32mm before it passes through the wall to the exterior. The pipe should be insulated using suitable waterproof and weather resistant insulation.
- The external pipe should take the shortest and least exposed route to the discharge point, and should “fall” as steeply as possible away from the boiler, with no horizontal runs in which condensate might stand.
- The use of fittings, elbows etc. should be kept to a minimum and any internal “burrs” on cut pipe work should be removed so that the internal pipe section is as smooth as possible.

Fitting an external air break

- Refer to figure 4. When a rain water down pipe, that goes directly into a sewer that carries both rainwater and foul water, is used to dispose of condensate.
- An air break must be installed in the 43 mm pipe work, between the boiler condensate outlet and the drainpipe, outside the property, to avoid flooding during adverse weather conditions.

Condensate drainage pipe can be run above or below ground.

Where the pipe terminates over an open drain or gully, the pipe should terminate below the grating level, but above water level, in order to minimise “wind chill” at the open end.

The use of a drain cover (such as those used to prevent blockage by leaves) may offer further protection from wind chill.

Pipe drainage will be improved if the end is cut at 45° angle as opposed to a straight cut. (see fig. 5)

Condensate soak away

- The condensate drainage pipe may be run above or below the ground to the soak away.
- The examples shown on this page run above ground.
- The soak away must use a 100mm dia. plastic tube with two rows of three 12mm holes on 25mm centres and 50mm from the bottom of the tube. The holes must face away from the house.
- The tube must be surrounded by at least 100mm of limestone chippings to a depth of 400mm.

Minimum hole size for the condensate soak away must be 400mm deep by 300mm dia.

In situations where there are likely to be extremes of temperature or exposure, the use of a proprietary trace heating system for external pipe work, incorporating an external frost thermostat, should be considered. If such a system is used, the requirement to use 32mm pipe does not apply, however all other guidance above, and the instructions for the trace heating system, should be closely followed.

Unheated internal areas

- **Internal pipe runs in unheated areas such as lofts, basements and garages should be treated as external runs.**

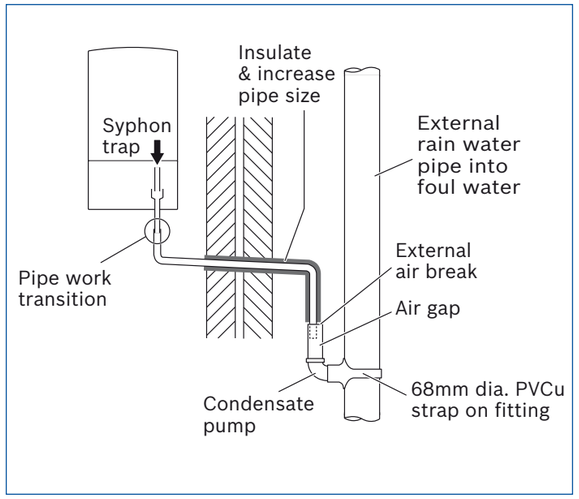


Fig. 4 Disposal into a rainwater down pipe

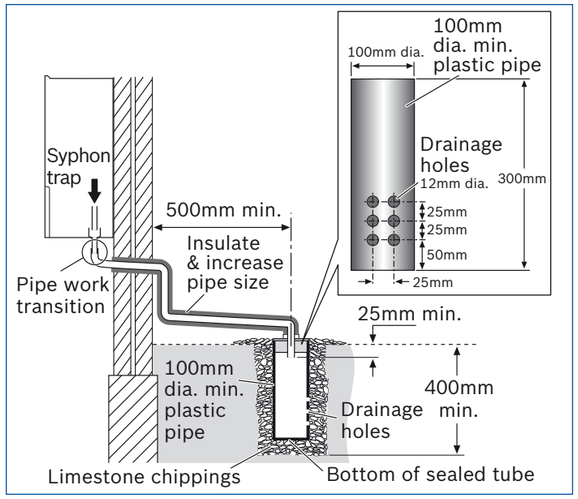


Fig. 6 Soak away

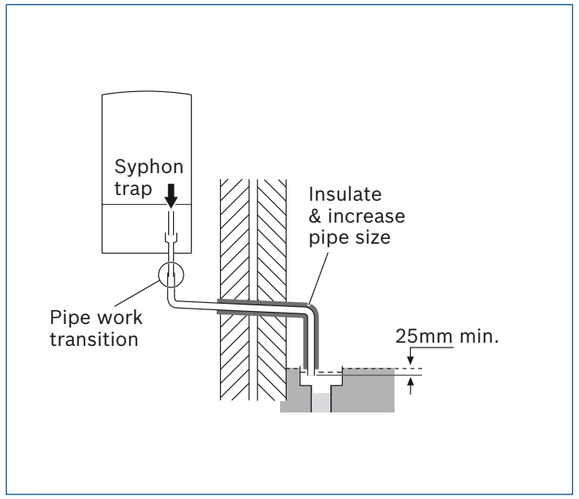


Fig. 5 External disposal

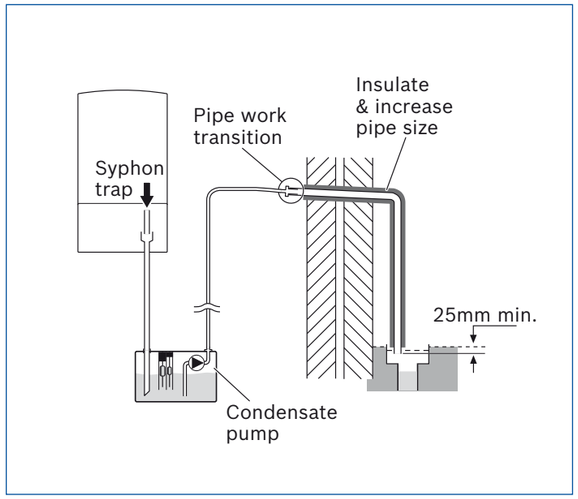
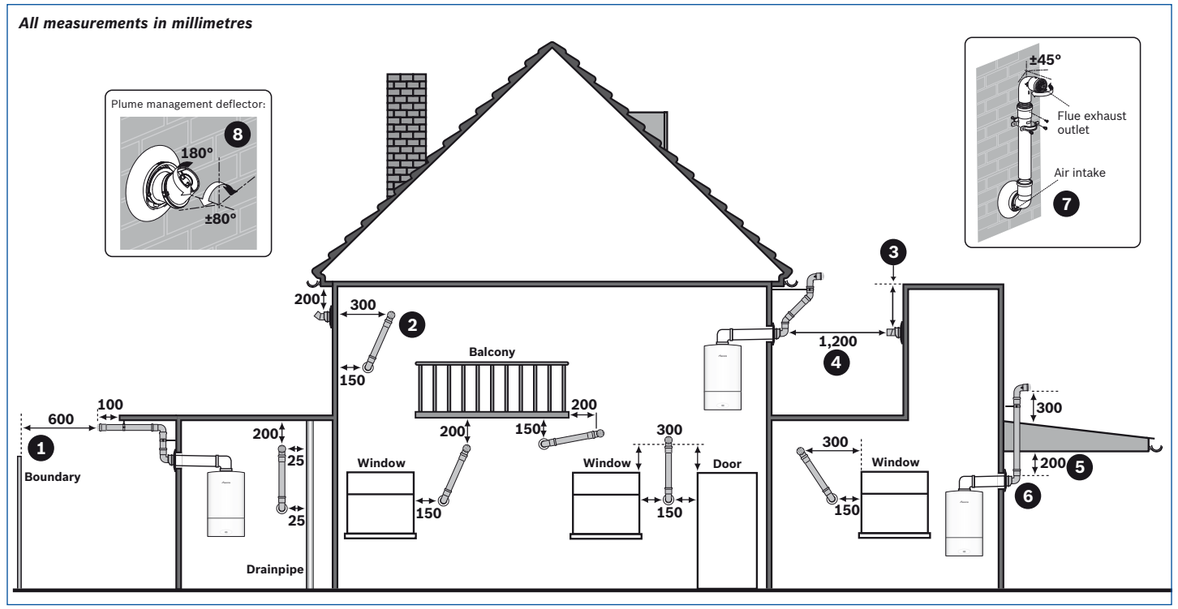


Fig. 7 Condensate pump to external disposal

Plume management terminal positioning



Note

- **All measurements are the minimum clearances required.**
- **Terminals must be positioned so to avoid combustion products entering the building.**
- **Support the flue at approximately one metre intervals and at a change of direction, use suitable brackets and fittings.**

Key to illustration

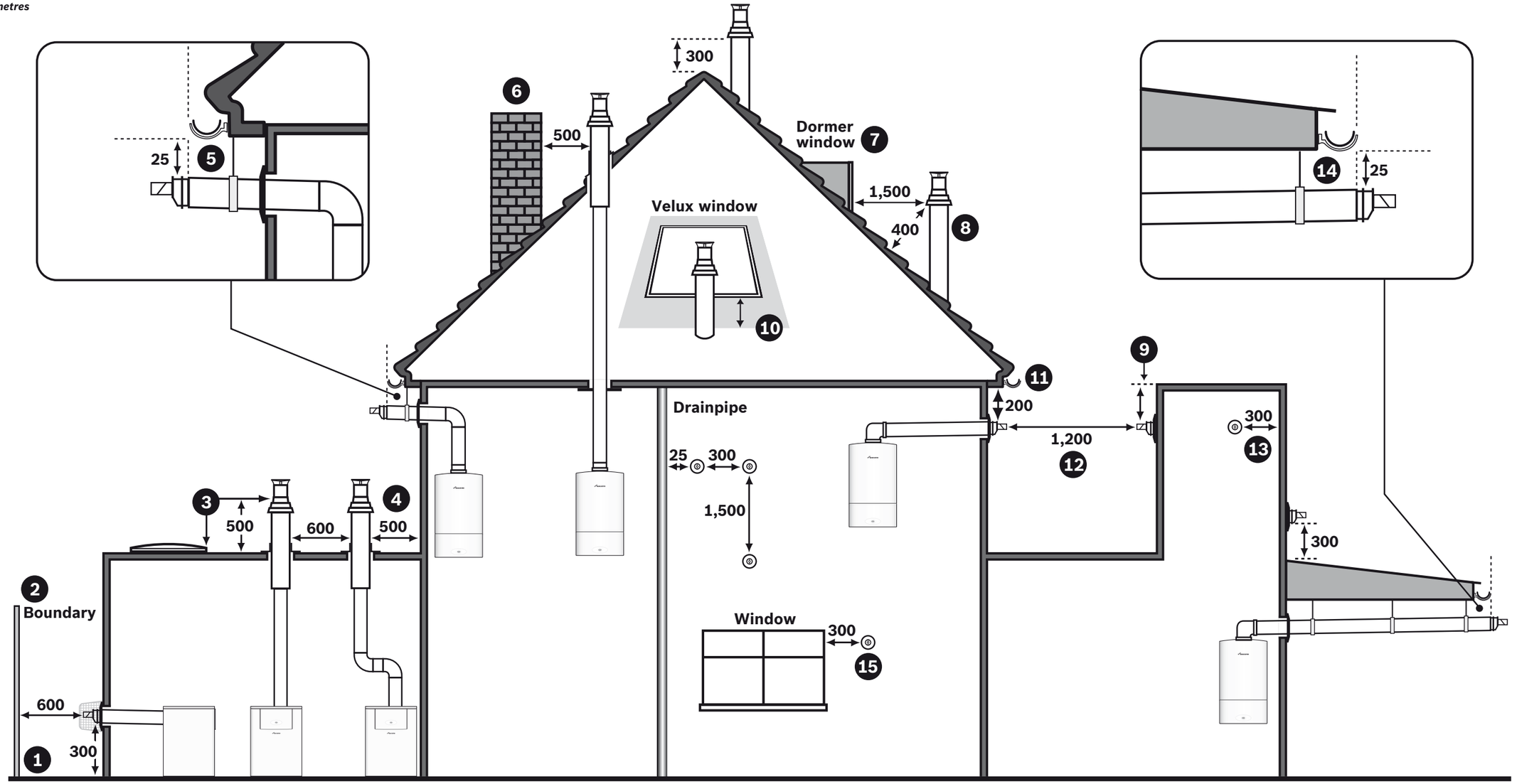
1. 600mm distance to a boundary or surface facing a boundary, unless it will cause a nuisance. BS 5440: Part 1 recommends that care is taken when siting terminals in relation to boundaries.
2. Internal/external corners. The air intake clearance can be reduced to 150mm providing the flue exhaust outlet has a 300mm clearance.
3. The flue cannot be lower than 1,000mm from the top of the light well due to the build up of combustion products.
4. 1,200mm between air intake and facing terminal.
5. Clearance no less than 200mm from the lowest point of the balcony or overhang.

Installations in car ports are not recommended.

6. 1,200mm from an opening in a car port on the same wall i.e. door or window leading into dwelling.
7. Using a Plume Management Kit the air intake measurement can be reduced to 150mm providing the flue exhaust outlet has a 300mm clearance. Plume kits running horizontally must have a 10º fall back to the boiler for proper disposal of condensate. For details on specific lengths see relevant boiler Technical & Specification information.
8. This feature allows some basic plume re-direction options on a standard telescopic horizontal flue terminal. 300mm minimum clearances to a opening e.g. window. However the minimum clearance to an opening in direction that the plume management is facing, must be increased to 1,500mm. Where the flue is less than 150mm to a drain pipe and plume re-direction is used the deflector should not be directed towards the drainpipe.

Flue terminal positioning

All measurements in millimetres



Note

- **All measurements are the minimum clearances required.**
- **Terminals must be positioned so to avoid combustion products entering the building.**
- **Support the flue at approximately one metre intervals and at a change of direction, use suitable brackets and fittings (flue bracket part numbers: 100mm – 7 716 191 092, 125mm – 7 716 191 174).**

Key to illustration

1. Flue clearance must be at least 300mm from the ground. Terminal guards must be fitted if the flue is less than 2 metres from the ground or if a person could come into contact with the flue terminal.
2. 600mm distance to a boundary, unless it will cause a nuisance. BS 5440: Part 1 recommends that care is taken when siting terminals in relation to boundaries.
3. 600mm minimum clearance from a skylight to a vertical flue.
4. Vertical flue clearance, 500mm to non-combustible building material, and 1,500mm clearance to combustible building material.
5. The dimension below eaves, gutters, pipes and drains can be reduced to 25mm, as long as the flue terminal is extended to clear any overhang. Any external flue joints must be sealed with a suitable silicon sealant.
6. 500mm clearance to any vertical structure on a roof, 600mm to room sealed flue or 1,500mm to an open flue.
7. 1,500mm between a vertical flue terminal and a window or dormer window.
8. 400mm from a pitched roof or in regions with heavy snow fall 500mm.
9. The flue cannot be lower than 1,000mm from the top of a light well due to the build up of combustion products.
10. 2,000mm below a Velux window, 600mm above or to either side of the Velux window.
11. 200mm below eaves and 75 mm below gutters, pipes and drains.
12. 1,200mm between terminals facing each other.
13. 300mm to an internal or external corner.

Installations in car ports are not recommended.

14. The dimension below eaves, balconies and car ports can be reduced to 25mm, as long as the flue terminal is extended to clear any overhang. Any external flue joints must be sealed with suitable silicon sealant.
15. 300mm above, below and either side of an opening door, air vent or opening window.

Greenstar regular boiler range horizontal fluing options

The Greenstar regular boiler range have the choice of 2 differently sized horizontal RSF flue systems, a 100mm diameter telescopic flue kit including a plume management kit and a 125mm diameter telescopic flue kit. Both systems have different maximum lengths. Options 1 to 6 detail the permissible lengths.

Horizontal RS flue

Flue diameter	100mm	125mm
Greenstar Ri series		
Minimum flue length	350mm*	405mm
Maximum flue length	4,600mm	13,000mm
Greenstar CDi Regular series		
Minimum flue length	350mm*	405mm
Maximum flue length		
30CDi Regular	7,900mm	18,500mm
40CDi Regular	6,000mm	12,500mm

**Can be cut to 130mm. Please refer to instructions.*

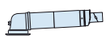
100mm dia. standard telescopic flue kit
Comprises:
1 x flue turret elbow
570mm (100mm dia.) of flue duct
1 x weather sealing ring
1 x internal collar
Part No. 7 716 191 082

125mm dia. standard telescopic flue kit
1 x flue turret elbow
600mm (125mm dia.) of flue duct including terminal (as measured from centre of flue outlet)
1 x weather sealing plate
1 x internal plate
Part No. 7 719 003 702

Note: The maximum flue length must be reduced by the following amounts for each bend used.

	Greenstar Ri – all size flues	Greenstar CDi Regular 60/100mm flues	Greenstar CDi Regular 80/125mm flues
45º bend	1m	0.75m	1m
90º bend	2m	1.5m	2m

Accessories

Components	Part no.	Description
	7 716 191 082	100mm dia. standard telescopic flue kit (350 - 570mm)
	7 716 191 171	100mm dia. long telescopic flue kit (570 - 790mm)
	7 716 191 083	100mm dia. extension flue kit (960mm*)
	7 716 191 172	100mm dia. 2m flue extension
	7 716 191 133	100mm dia. short flue extension (220mm*)
	7 716 191 084	100mm dia. 90º bend
	7 716 191 085	100mm dia. 45º bend
	7 719 002 432	100mm dia. high level horizontal adaptor
	7 716 191 092	100mm dia. support bracket kit
	7 716 191 173	100mm dia. support bracket kit (6 pack)
	7 719 003 702	125mm dia. standard telescopic flue kit
	7 719 003 666	125mm dia. extension flue kit (960mm*)
	7 719 003 664	125mm dia. 90º bend
	7 719 003 665	125mm dia. 45º bend
	7 719 002 433	125mm dia. high level horizontal adaptor
	7 716 191 174	125mm dia. support bracket kit

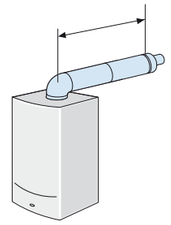
**Dimensions when fitted*

The following criteria should be noted when planning the installation.

- The concentric flue system must be inclined at 3º (50mm per metre) from the appliance, to allow condensate to drain back into the boiler.
- Because the appliance operates at high efficiency a white plume of condensation will be emitted from the terminal. Care must be taken when selecting the flue terminal position.

Option 1

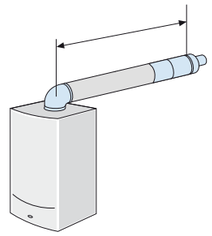
Standard horizontal flue assembly



Maximum length (mm)		Components required
Greenstar Ri series		
100mm	570	1
125mm	600	1
Greenstar 30CDi Regular		
100mm	570	1
125mm	600	1
Greenstar 40CDi Regular		
100mm	570	1
125mm	600	1

Option 2

Extension flue horizontal

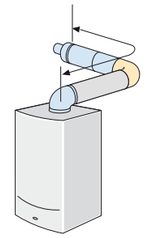


Maximum length (mm)		Components required	
Greenstar Ri series			
100mm	4,600	1	up to 5
125mm	13,000	1	up to 13
Greenstar 30CDi Regular			
100mm	7,900	1	up to 8
125mm	18,500	1	up to 18
Greenstar 40CDi Regular			
100mm	6,000	1	up to 6
125mm	12,500	1	up to 12

Note: The short flue extension (100mm dia.) may be used as an alternative to the standard extension as required up to the maximum flue lengths stated (7 716 191 133).

Option 3

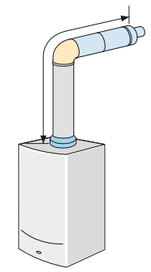
Extension flue horizontal using a second 90º bend



Maximum length (mm)		Components required		
Greenstar Ri series				
100mm	2,600	1	up to 3	1
125mm	11,000	1	up to 10	1
Greenstar 30CDi Regular				
100mm	6,400	1	up to 6	1
125mm	16,500	1	up to 16	1
Greenstar 40CDi Regular				
100mm	4,500	1	up to 4	1
125mm	10,500	1	up to 10	1

Option 4

Extension flue horizontal and upwards



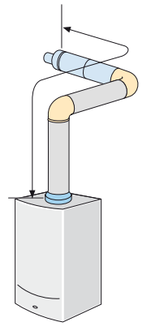
Maximum length (mm)		Components required			
Greenstar Ri series					
100mm	4,600	1	up to 5	1	1
125mm	13,000	1	up to 13	1	1
Greenstar 30CDi Regular					
100mm	7,900	1	up to 8	1	1
125mm	18,500	1	up to 18	1	1
Greenstar 40CDi Regular					
100mm	6,000	1	up to 6	1	1
125mm	12,500	1	up to 12	1	1

Note: The maximum flue length must be reduced by the following amounts for each bend used.

	Greenstar Ri – all size flues	Greenstar CDi Regular 60/100mm flues	Greenstar CDi Regular 80/125mm flues
45º bend	1m	0.75m	1m
90º bend	2m	1.5m	2m

Option 5

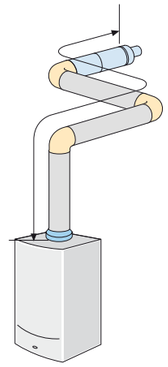
Extension flue upwards and horizontal using a second 90º bend



Maximum length (mm)		Components required			
Greenstar Ri series					
100mm	2,600	1	up to 3	2	1
125mm	11,000	1	up to 11	2	1
Greenstar 30CDi Regular					
100mm	6,400	1	up to 6	2	1
125mm	16,500	1	up to 16	2	1
Greenstar 40CDi Regular					
100mm	4,500	1	up to 4	2	1
125mm	10,500	1	up to 10	2	1

Option 6

Extension flue upwards and horizontal using a third 90º bend



Maximum length (mm)		Components required			
Greenstar Ri series					
125mm	9,000	1	up to 9	3	1
Greenstar 30CDi Regular					
100mm	4,900	1	up to 5	3	1
125mm	14,500	1	up to 14	3	1
Greenstar 40CDi Regular					
100mm	3,000	1	up to 2	3	1
125mm	8,500	1	up to 8	3	1

Note: The short flue extension (100mm dia.) may be used as an alternative to the standard extension as required up to the maximum flue lengths stated (7 716 191 133).

Note: The maximum flue length must be reduced by the following amounts for each bend used.

	Greenstar Ri – all size flues	Greenstar CDi Regular 60/100mm flues	Greenstar CDi Regular 80/125mm flues
45º bend	1m	0.75m	1m
90º bend	2m	1.5m	2m

Greenstar regular boiler range vertical fluing options

The Greenstar regular boiler range have the choice of 2 differently sized vertical RSF flue systems, 100mm and 125mm. Both systems have different maximum lengths. Options 1 to 4 detail the permissible lengths.

Vertical RSF flue

Condensfit II

Flue diameter	100mm	125mm
Greenstar Ri series		
Minimum flue length	1,090mm	1,365mm
Maximum flue length (inc. adaptor)	6,400mm	15,000mm
Greenstar CDi Regular series		
Minimum flue length	1,140mm	1,365mm
Maximum flue length (inc. adaptor) 30CDi Regular	9,400mm	18,500mm
40CDi Regular	7,500mm	16,000mm

Vertical balanced flue kit

Comprises:

1 x flue terminal assembly

1 x weather sealing collar

1 x fire stop spacer

1 x vertical adaptor

Part No. 7 719 002 430 (100mm dia.)

Part No. 7 719 002 431 (125mm dia.)

Note: The short flue extension (100mm dia.) may be used as an alternative to the standard extension as required up to the maximum flue lengths stated (7 716 191 133).

Note: The maximum flue length must be reduced by the following amounts for each bend used.

	Greenstar Ri – all size flues	Greenstar CDi Regular 60/100mm flues	Greenstar CDi Regular 80/125mm flues
45º bend	1m	0.75m	1m
90º bend	2m	1.5m	2m

Accessories

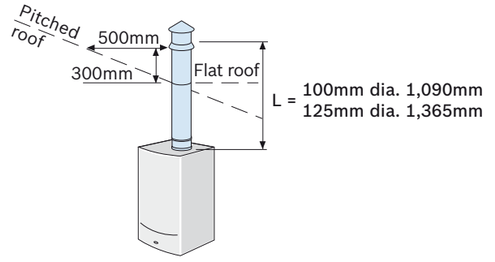
Condensfit II

Components	Part no.	Description
	7 719 002 430	100mm dia. vertical balanced flue kit
	7 716 191 083	100mm dia. extension flue kit (960mm*)
	7 716 191 133	100mm dia. short flue extension (220mm*)
	7 716 191 084	100mm dia. 90º bend
	7 716 191 085	100mm dia. 45º bend
	7 719 002 431	125mm dia. vertical balanced flue kit
	7 719 003 666	125mm dia. extension flue kit (960mm*)
	7 719 003 664	125mm dia. 90º bend
	7 719 003 665	125mm dia. 45º bend
	7 716 191 090	Flashing – flat roof
	7 716 191 091	Flashing – pitched roof

*Dimensions when fitted

Option 1

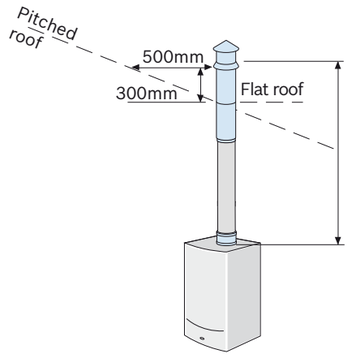
Minimum height



Minimum length (mm)		Components required
Greenstar Ri series		
100mm	1,090	1
125mm	1,365	1
Greenstar 30CDi Regular		
100mm	1,090	1
125mm	1,365	1
Greenstar 40CDi Regular		
100mm	1,090	1
125mm	1,365	1

Option 2

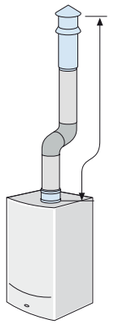
Vertical balanced flue system maximum height



Maximum length (mm)		Components required	
Greenstar Ri series			
100mm	6,400	1	up to 6
125mm	15,000	1	up to 14
Greenstar 30CDi Regular			
100mm	9,400	1	up to 9
125mm	18,500	1	up to 18
Greenstar 40CDi Regular			
100mm	7,500	1	up to 7
125mm	16,000	1	up to 15

Option 3

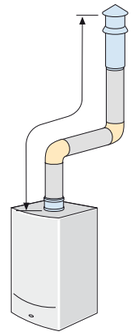
Vertical balanced flue system with two 45º bends



Maximum length (mm)		Components required		
Greenstar Ri series				
100mm	4,400	1	up to 4	2
125mm	13,000	1	up to 12	2
Greenstar 30CDi Regular				
100mm	7,900	1	up to 7	2
125mm	16,500	1	up to 16	2
Greenstar 40CDi Regular				
100mm	6,000	1	up to 5	2
125mm	14,000	1	up to 13	2

Option 4

Vertical balanced flue system with two 90º bends



Maximum length (mm)		Components required		
Greenstar Ri series				
100mm	2,400	1	up to 2	2
125mm	11,000	1	up to 10	2
Greenstar 30CDi Regular				
100mm	5,400	1	up to 7	2
125mm	14,500	1	up to 16	2
Greenstar 40CDi Regular				
100mm	4,500	1	up to 4	2
125mm	12,000	1	up to 13	2

Note: The short flue extension (100mm dia.) may be used as an alternative to the standard extension as required up to the maximum flue lengths stated (7 716 191 133).

Note: The maximum flue length must be reduced by the following amounts for each bend used.

	Greenstar Ri – all size flues	Greenstar CDi Regular 60/100mm flues	Greenstar CDi Regular 80/125mm flues
45º bend	1m	0.75m	1m
90º bend	2m	1.5m	2m

Greenstar regular boiler range plume management system options

Plume management system

60mm dia. plume management kit

Comprises:
1 x terminal bend
1 x extension 500mm
1 x outlet assembly
1 x clamp pack
Part No. 7 716 191 086

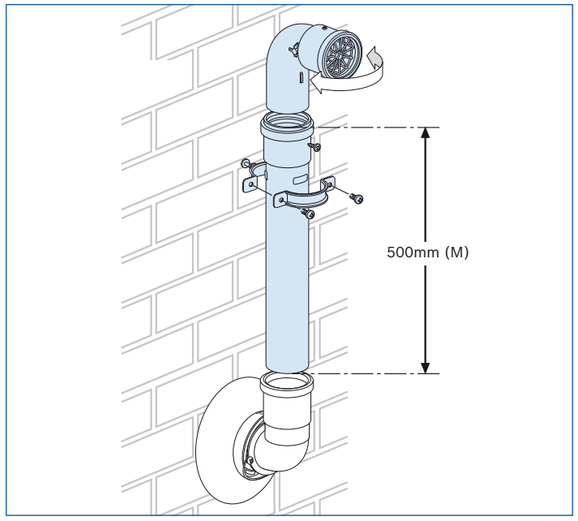
Accessories

Components	Part no.	Description
	7 716 191 086	60mm dia. plume management kit
	7 716 191 087	60mm dia. extension (1,000mm)
	7 716 191 088	60mm dia. 90º bend
	7 716 191 089	60mm dia. 45º bend (pair)
	7 716 191 176	60mm dia. plume management terminal guard round

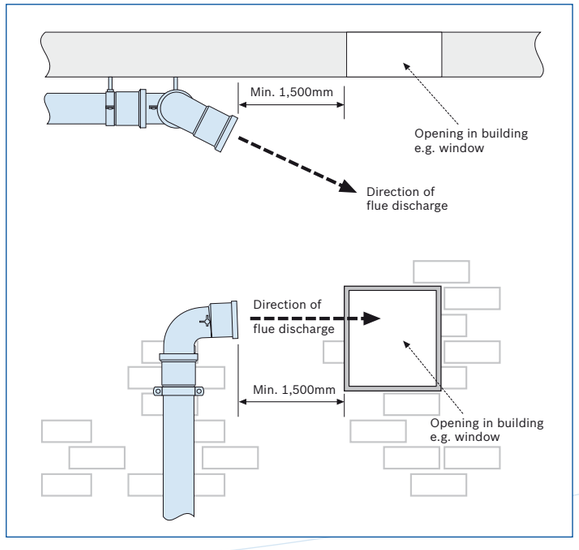
Standard plume management system

The flue terminal outlet has built-in stops to limit rotation for horizontal fluing to allow condensate to run back into the boiler for safe disposal. Do not attempt to force beyond the limit stops.

All plume management sections must rise by at least 173mm per metre (10º) from the terminal to ensure that condensate flows back into the boiler.



Re-directing flue discharge from a 60mm dia. plume management outlet



Condensfit II telescopic flue and plume management system measuring

Fig A

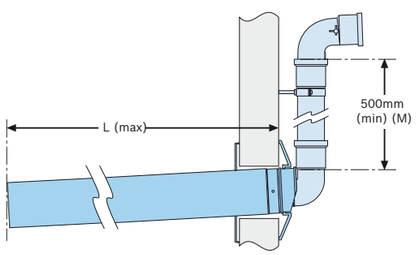
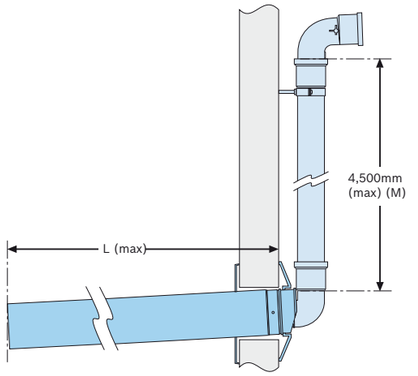
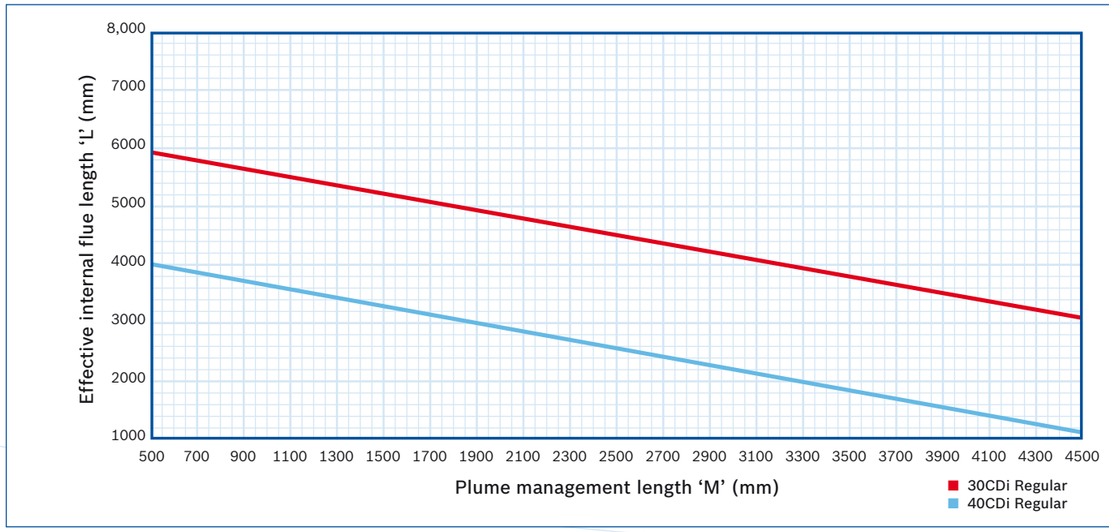


Fig B



Effective straight flue lengths for telescopic flue with plume management		
Model	**Fig. A Max. straight flue length (L) with min. plume management length 500mm (M)**	**Fig. B Max. straight flue length (L) with max. plume management length 4,500mm (M)**
Ri series	4,600mm	4,600mm
30CDi Regular	5,900mm	3,100m
40CDi Regular	4,000mm	1,200mm

Flue length ‘L’ versus plume management kit – Greenstar CDi Regular



Greenstar Ri regular boilers are able to use the maximum 100mm dia. internal flue length of 4,600mm regardless of the amount of plume management selected.

External plume management bends still need to be allowed for. See below.

For Greenstar CDi Regular boilers the 100mm dia. internal flue length must be reduced by 700mm for every additional 1,000mm of plume management, refer to table and graph below.

60mm dia. plume management system

To ensure that the maximum total straight flue length along the plume management route is not exceeded the following should be added to dimension (M):

- 1,500mm for each extra 90º bend
- 750mm for each extra 45º bend

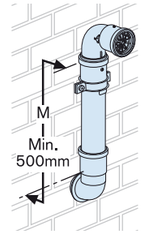
For plume management options with 60mm dia. extensions refer to pages 29 - 30.

Use the graph below to determine the permissible plume management length that can be used with your effective flue length ‘L’.

The effective flue length can be determined by adding together all the straight flue lengths and the effective lengths of the bends used, 2,000mm for each 90º bend and 1,000mm for each 45º bend.

Option 1

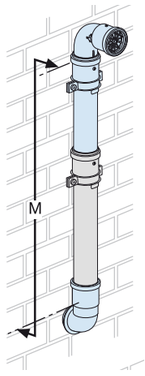
Plume management system



Minimum length (mm)		Components required
Greenstar Ri series		
60mm	500	1
Greenstar CDi Regular series		
60mm	500*	1

Option 2

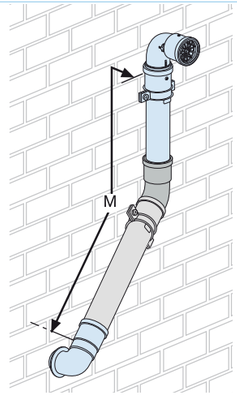
Plume management system with extensions



Maximum length (mm)		Components required	
Greenstar Ri series			
60mm	4,500	1	up to 4
Greenstar CDi Regular series			
60mm	4,500*	1	up to 4

Option 3

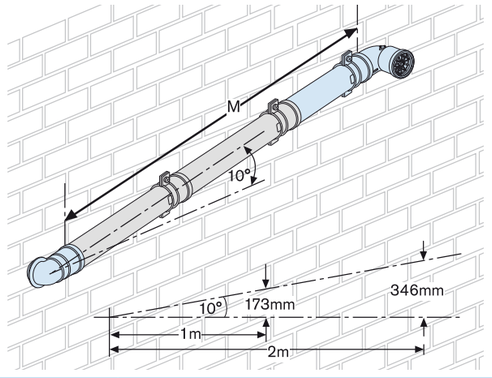
Plume management system with extensions and 45º bend



Maximum length (mm)		Components required		
Greenstar Ri series				
60mm	3,750	1	up to 4	1
Greenstar CDi Regular series				
60mm	3,750*	1	up to 4	1

Option 4

Plume management system with angled termination

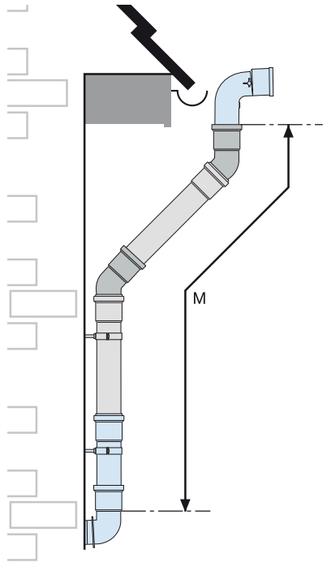


Maximum length (mm)		Components required	
Greenstar Ri series			
60mm	4,500	1	up to 4
Greenstar CDi Regular series			
60mm	4,500*	1	up to 4

***NOTE: You must refer to the table and graph on page 28 to calculate your horizontal flue lengths and plume management length.**

Option 5

Plume management system with extensions and 45º bends



Maximum length (mm)		Components required		
Greenstar Ri series				
60mm	3,000	1	up to 3	2
Greenstar CDi Regular series				
60mm	3,000*	1	up to 3	2

***NOTE: You must refer to the table and graph on page 28 to calculate your horizontal flue lengths and plume management length.**

Installation requirements

Installation of the Greenstar regular boiler range must be in accordance with the relevant requirements of the Gas Safety (Installation Use) Regulations (as amended), current IEE Wiring Regulations, local Building Regulations, Building Standards (Scotland) regulations and bylaws of the local Water company and Health and Safety Document No. 635 (Electricity at Work Regulations 1989). It should be in accordance with the relevant recommendations of the following British Standards:

BS 6798; BS 5449; BS 5546:1; BS 5440:1; BS 5440:2; BS 6891.

Gas Safety (Installation and Use) Regulations. All gas appliances must be installed by a Gas Safe registered person in accordance with the above regulations. Failure to install appliances correctly could lead to prosecution.

The manufacturer's notes must not be taken in any way as overriding statutory regulations.

It is important with an aluminium heat exchanger that the pH level of the water does not exceed 8. Levels in excess of this could be detrimental to the heat exchanger.

The use of a suitable inhibitor will provide a resistance to this. Contact Sentinel (Tel: 0800 3894670) or Fernox (Tel: 01799 521133) for further details.

Sealed primary systems

The appliance is fitted with a manual reset high limit thermostat and is suitable for use with a sealed primary system.

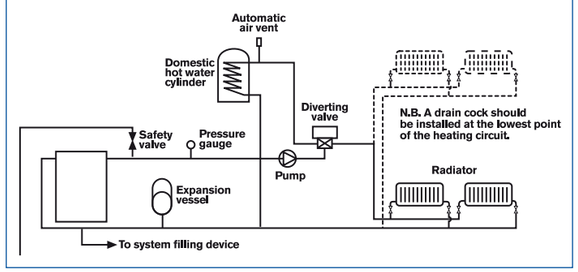
The system should be installed in compliance with the requirements of BS 5449: Part1. The system must be fitted with a spring loaded safety valve set to operate at 3bar (45 psi) and the pipe connections made through the system must be capable of sustaining a pressure of up to 3bar.

Manual air vents should be fitted at any high points in the system.

The following is a list of major items which must be fitted to the system:

1. Safety valve – 3bar
2. Pressure gauge – 0 - 4bar
3. Expansion vessel
4. Automatic air vent

Typical fully pumped sealed system



System filling and make-up

To comply with the Water Authority requirements, the system should be filled via a temporary hose connection to the mains cold water supply, with a double check valve assembly and test point fitted to the mains water side of a temporary circuit.

Valves and joints

It is very important that all valves and joints are able to sustain a working pressure of up to 3bar (45psi). Particular care should be exercised when fitting radiator valves and only those of high quality to BS 2767:10 should be used. All other valves and fittings should comply with BS 1010.

Loss of water pressure from a sealed system will require continuous recharging with fresh water and consequential introduction of air. Air is highly corrosive and will considerably reduce life expectancy of radiators, pumps etc.

Plastic pipework

The use of plastic pipework is acceptable. However, some plastics are permeable to oxygen and must be avoided. Only pipework with a polymeric barrier should be used. Please note that the first 600mm of pipework connected to the boiler must be of copper or steel.

Open vented primary systems

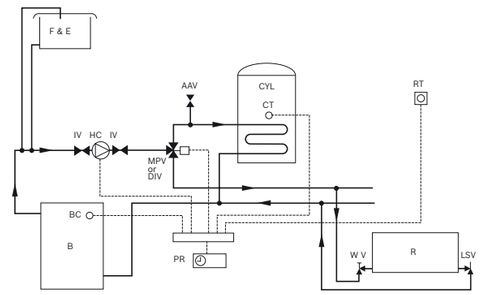
The Greenstar regular boiler range is designed for connection to an open vented fully pumped heating and hot water system.

The following points are for guidance only. The system installation should be carried out in accordance with BS 5449:Part 1.

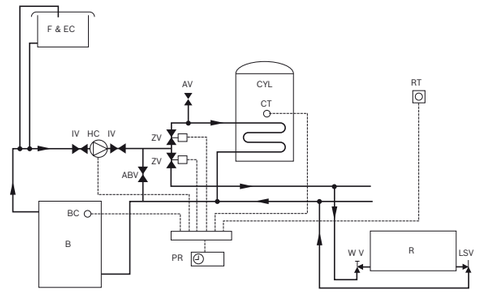
The cistern must be arranged to provide a minimum static head of 0.25 metres above the top of the highest point in the heating circuit.

Air in the appliance is expelled through the vent pipe or dissipated into the system. Manual air vents should be fitted at any high points in the system.

Y plan



S plan



Air supply

Worcester Greenstar regular boilers are room sealed appliances; the room in which it is installed does not therefore require a purpose provided combustion air vent.

Natural gas supply

For the Greenstar Ri series when on a full output demand will require up to 3.02m³/hr of gas (depending on the model).

For the Greenstar CDi Regular series when on a full output demand will require up to 4.4m³/hr of gas (depending on the model).

The gas meter and supply pipes must be capable of supplying this quantity of gas in addition to the demand from any other appliance being served. The meter outlet governor should be capable of ensuring a dynamic nominal pressure of 20mbar (8in wg) at the appliance. Particular consideration should be given to the resistance to gas flow created by elbows, bends etc. Pipework should be sized to overcome this resistance, and details of this are given in the following table.

	Total length of gas supply pipe (m)			Pipe diameter (mm)
	3	6	9	–
Gas discharge rate m³/h	2.9	–	–	15*
	8.7	5.8	4.6	22
	18.0	12.0	9.4	28

**Greenstar 12Ri and 15Ri series only.*

Approximate additional length to be allowed (natural gas)

Elbows or tees		90º bends	
Metres	Feet	Metres	Feet
0.5	2	0.3	1

Greenstar 12Ri and 15Ri models
Provided that the correct gas supply working pressure and gas rate can be achieved (refer to BS 6891) then it may be possible to reduce the gas supply pipe diameter to 15mm.

Generally speaking, the appliance would need to be within 3 to 4 metres of the gas meter. However, this will depend on the distribution pipe size and route.

Greenstar 18Ri, Greenstar 24Ri and Greenstar CDi Regular models
Under no circumstances should the size of the gas supply pipe be less than 22mm.

Liquid Petroleum Gas (LPG) supply

The Greenstar Ri regular appliance is available in an LPG version. The appliance, when on demand at full output will require 0.5m³/h, 0.96Kg/h, (17.7ft³/hr) for the 12Ri, 0.63m³/h, 1.20Kg/h, (22.25ft³/hr) for the 15Ri, 0.76m³/h, 1.44Kg/h, (26.70ft³/hr) for the 18Ri, and 1.01m³/h, 1.91Kg/h (35.7ft³/hr) for the 24Ri.

The Greenstar CDi Regular series is available in an LPG version. The appliance when on a hot water or full output demand will require up to 2.4kg/h (30kW) or 3.3kg/h (40kW) of gas.

The gas tank or bottles must be capable of supplying this quantity of gas at a nominal pressure of 37mbar (14.8in wg) at the appliance. The tables below show the LPG gas discharge through varying lengths of pipe and the resistance to flow created by elbows, bends etc. Pipework should be sized to overcome this resistance.

	Total length of gas supply pipe (m)			Pipe diameter (mm)
	3	6	9	–
Gas discharge rate m³/h	1.49	0.8	–	15
	8.0	5.2	4.2	22
	15.9	8.9	8.3	28

Approximate additional length to be allowed (LPG)

Elbows or tees		90º bends	
Metres	Feet	Metres	Feet
0.6	2	0.3	1

Electricity supply

A 3amp fused three pin plug and unswitched shuttered socket outlet (both complying with BS 1362) or preferably a double pole isolator with a contact separation of 3mm in all poles supplying the appliance should be used.

The appliance electrical circuits are also protected by an internal 2amp fuse. The appliance must be earthed.

Warranty

Worcester Greenstar regular range appliances are offered with a full 2 year guarantee* on parts and labour and a 10 year warranty* on the primary heat exchanger. Ongoing service and maintenance contracts can be arranged through the Worcester Customer Service Department.

**Subject to conditions.*

Greenstar regular boiler range accessories

WORCESTER
Bosch Group

RS telescopic flue kit (100mm dia.)

Worcester Part No.
7 716 191 082

Long telescopic flue kit (100mm dia.)

Worcester Part No.
7 716 191 171

Standard telescopic horizontal flue kit (125mm dia.)

Worcester Part No.
7 719 003 702

Vertical BF kit (100mm dia.)

Worcester Part No.
7 719 002 430

Support bracket kit (100mm dia.)

Worcester Part No.
7 716 191 092

Support bracket kit 6 pack (100mm dia.)

Worcester Part No.
7 716 191 173

Support bracket kit (125mm dia.)

Worcester Part No.
7 716 191 174

Below boiler pipe cover

Worcester Part No.
7 716 192 608

Vertical BF kit (125mm dia.)

Worcester Part No.
7 719 002 431

1,000mm extension kit (100mm dia.)

Worcester Part No.
7 716 191 083

2m flue extension (100mm dia.)

Worcester Part No.
7 716 191 172

Short flue extension 220mm (100mm dia.)

Worcester Part No.
7 716 191 133

Plume management kit (60mm dia.)

Worcester Part No.
7 716 191 086

Extension (60mm dia., 1,000mm)

Worcester Part No.
7 716 191 087

90º bend (60mm dia.)

Worcester Part No.
7 716 191 088

45º bend (60mm dia.)

Worcester Part No.
7 716 191 089

1,000mm extension (125mm dia.)

Worcester Part No.
7 719 003 666

45º bend (100mm dia.)

Worcester Part No.
7 716 191 085

45º bend (125mm dia.)

Worcester Part No.
7 719 003 665

90º bend (100mm dia.)

Worcester Part No.
7 716 191 084

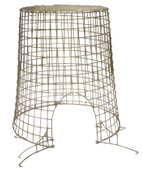
Flat roof flashing kit (100mm & 125mm dia.)

Worcester Part No.
7 716 191 090

Pitched roof flashing kit (100mm & 125mm dia.)

Worcester Part No.
7 716 191 091

Plume management terminal guard round (60mm dia.)



Worcester Part No.
7 716 191 176

90º bend (125mm dia.)

Worcester Part No.
7 719 003 664

High level horizontal flue adaptor (100mm dia.)

Worcester Part No.
7 719 002 432

High level horizontal flue adaptor (125mm dia.)

Worcester Part No.
7 719 002 433

Security fixing

Worcester Part No.
7 716 192 261

The very best training programmes from Worcester

Worcester has always placed great emphasis on technical support and training for installers and service engineers. Today this need is greater than ever. The differences between a combi, regular and system boiler are substantial, and the technology of each continues to advance at a rapid pace.

With the increase of renewables technologies in the UK, the need for training has never been greater.

To ensure the highest levels of competence and expertise in the installation of all Worcester products, the company runs intensive training courses for installers, commissioning engineers and operatives involved with servicing and fault finding.

Courses available

Our training facilities offer a number of courses suitable for the installer and commissioning engineers, and a more in-depth course for the servicing and fault finding engineers.

Training lab at West Thurrock Academy

Training Centres throughout the UK

Worcester's network of regional training venues is strategically located across the country and includes our state-of-the-art Academy at the Company Headquarters in Worcester. This facility has recently been upgraded to include a heat pump training lab, showcasing our range of ground and air source heat pumps.

Further academies are located at West Thurrock in Essex, Bradford, Clay Cross in Derbyshire and Bangor in Northern Ireland, all offering our full suite of courses. Please phone 01905 752526 for more information about a course near you. Each course is run by specialist trainers and is superbly equipped to deliver a combination of classroom theory and practical hands-on experience that's second to none.

College-linked Learning

As well as offering training at our own centres, Worcester has established close partnerships with many colleges around the UK, equipping them with our latest products. Call us on 01905 752526 to find out when we will be running the course of your choice at a college in your area.

Mobile training

To complement our training venues across the country, we can also bring training to you.

We have mobile vehicles fully equipped with operational Greenstar gas-fired boilers, dry strip-down models and even a Greensource Air to Air Heat Pump, ensuring that quality training in a comfortable environment can be achieved on your doorstep!

If it's oil training you require, our 7.5 tonne mobile oil vehicle is available throughout the country for hands-on product training and OFTEC assessments.

Distance Learning/Web Based Learning

Worcester has produced a selection of Distance Learning CD ROMs/DVDs which are packed with information. Call 0844 892 9800 for your copies, or visit www.worcester-bosch.co.uk for information on Web Based Learning.

Get on course for a more profitable future now.

Call now for more information 01905 752526

www.worcester-bosch.co.uk

Worcester training courses

One stop shop training

We are here to provide you with training and assistance for all areas of your business, not just product training. IT Skills and Sales & Marketing are just 2 of the courses we now offer to help your business grow. Call us on 01905 752526 to order a full training course portfolio.

Worcester training courses	
Greenstar CDi gas-fired condensing combi boilers	
Models covered	Greenstar 27/30/37/42CDi
Duration	1 day
Greenstar i Junior & Si gas-fired condensing combi boilers	
Models covered	Greenstar 24/28i Junior Greenstar 25/30Si
Duration	1 day
Greenstar Highflow CDi & FS CDi regular floor standing gas-fired condensing combi and regular boilers	
Models covered	Greenstar Highflow 440/550CDi Greenstar FS 30/42CDi Regular
Duration	1 day
Greenstar system & regular gas-fired condensing boilers	
Models covered	Greenstar 12/15/18/24Ri Greenstar 30/40CDi Regular Greenstar FS 30/42CDi Regular Greenstar 30CDi System Greenstar 12/15/18/24i System
Duration	1 day
Greenstar controls	
Models covered	MT10/MT10RF/DT20RF/DT20/DT10RF/TD200/RT10/FR10/FR110/FW100/ISM1
Duration	1 day
Greenstar Danesmoor, Heatslave & Camray high efficiency condensing oil-fired boilers – pre-OFTEC training	
Models covered	Greenstar Danesmoor series Greenstar Heatslave series Greenstar Camray series
Duration	1 day
Greenskies solar system	
Covering	Installation, Commissioning and Servicing
Duration	2 days
Greenstore ground source heat pumps	
Covering	Installation, Commissioning and System Design
Duration	2 days
Greensource heat pumps – air to water	
Covering	Installation, Commissioning and System Design
Duration	2 days
Greensource heat pumps – air to air	
Covering	Installation, Commissioning and System Design
Duration	1 day
BPEC warm water underfloor heating installation course	
Covering	Product overview, basic principles & advantages of underfloor heating, floor systems and finishes, operation, installation, testing, post installation activities
Duration	2 days

OFTEC ASSESSMENT	
OFTEC 101	
Covering	Domestic/Light Commercial Pressure Jet Commissioning and Servicing
Duration	3 day course
OFTEC 105e	
Covering	Domestic/Light Commercial Pressure Jet Boiler Installation
Duration	1 day assessment
OFTEC 101 & 105e	
Covering	Domestic/Light Commercial Pressure Jet Installation, Commissioning and Servicing
Duration	3 day course
OFTEC 600a	
Covering	Oil Tank Installation and Associated Controls
Duration	1 day assessment course
OFTEC 101/105e/600e	
Covering	Domestic/Light Commercial Pressure Jet Boiler Installation, Commissioning, Servicing and Oil Tank Installation and Associated Controls
Duration	4 days
Mobile OFTEC	
All above covered throughout the country on the mobile training vehicle as well as in all our centres.	
Unvented cylinder course	
Covering	All G3 Regulations for the Installation, Servicing and Commissioning of Unvented Cylinders. This course is certified by Logic Certification.
Duration	1 day
Chemical water treatment	
Covering	Water treatment of domestic heating systems in accordance with BS 7593: 2006
Duration	1 day
Construction skills F-Gas training/assessment certification	
Covering	Qualifies for Construction Skills Certification & Registration (valid for 5 years) and Voluntary ACRIB Registration
Duration	4 days

NB: Please note to attend OFTEC courses you must have a minimum of 12 months' experience installing/servicing oil boilers. For inexperienced candidates, our Greenstar Danesmoor, Heatslave and Camray course offers pre-OFTEC training. For experienced oil technicians training is not a pre-requisite for OFTEC assessment.

A complete after-sales service

As part of the worldwide Bosch Group, Worcester strives to maintain the highest possible standards of after-sales care.

In addition to the no-nonsense parts and labour warranty applicable to all Worcester boilers, you and your customers have the assurance that every Worcester boiler is manufactured to both the appropriate British and European standards.

Worcester Contact Centre

Should you require support, our fully trained Contact Centre staff, based at our head office in Worcester, are ready to take your calls. Whatever your query our contact centre operators along with our nationwide team of engineers are ready to help you.

Boiler Protection Options

Worcester offers boiler protection including service and maintenance contracts. Please call the Worcester Contact Centre for further details.

If you do not offer annual service and maintenance contracts please refer your customers to the Worcester Contact Centre:

Tel: 08457 256 206
Fax: 01905 757 536

Opening Times

Monday – Friday: 7.00am – 8.00pm
Saturday: 8.00am – 5.00pm
Sunday: 9.00am – 12 noon

All the technical advice you need

Spares

Genuine replacement parts for all supported Worcester boilers are readily available from stock, on a next day delivery basis. For more information please call your local stockist. You can find a spares stockist on our website.

Customer Technical Support

The Worcester Technical Helpline is a dedicated phone line – committed to providing a comprehensive service to complement the brand name and quality of our products. Our experienced team of technical experts provides answers to queries of a technical nature across the entire Worcester range.

Worcester also has a pre-sales department, which provides assistance in selecting a boiler system to suit a particular application, along with full guidance on installation. For more information please contact the Technical Helpline or alternatively visit our website where literature can be downloaded at **www.worcester-bosch.co.uk**

Technical

Tel: 0844 892 3366
Fax: 01905 752 741

Opening Times

Monday – Friday: 7.00am – 8.00pm
Saturday: 8.30am – 4.00pm

Notes

Useful numbers

Sales
Tel: 01905 752640
Fax: 01905 456445

Spare Parts
Tel: 01905 752576
Fax: 01905 754620

Technical Helpline (Pre & Post Sales)
Tel: 0844 892 3366
Fax: 01905 752741

Renewables Technical Helpline
Email: renewable.energy@uk.bosch.com
or telephone 0844 892 4010

Training
Tel: 01905 752526
Fax: 01905 752535

Literature
Email: literature@uk.bosch.com
or download instantly from our website
or telephone 0844 892 9800

Customer Service

Engineer Appointments
Email: appointment.worcester@uk.bosch.com
or telephone 0844 892 3000

Enquiries
Email: service.mailbox@uk.bosch.com
or telephone 0844 892 3000

Guarantee Registration
To register your Worcester guarantee,
please visit our website or
telephone 0844 892 2552

Calls to the listed 0844 numbers are charged at up to 3 pence per minute from BT land lines.
Calls from mobiles and some other networks may vary. Calls to and from Bosch Thermotechnology Ltd
may be recorded for training and quality assurance purposes.

www.worcester-bosch.co.uk

In partnership with energy saving trust™

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